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Naum Gabo

Arts Council

At the Tate Gallery London
15 March to 15 April 1966

Naum Gabo

Constructions
Paintings
Drawings

The Arts Council of Great Britain

Acknowledgments

In the organization of this exhibition the Arts Council acknowledges with gratitude first the close co-operation of the artist who has taken a major part in the selection of the work and in the detailed arrangements. We would like to thank him and his family from whose collections the major part of the exhibition is drawn. We are also grateful to those other collectors who have lent works and whose names are listed on page 14.

Sir Herbert Read's published writings on the art of Gabo and Constructivism extend over more than twenty-five years and we are greatly indebted to him for writing once more on the subject at our special request and providing an introduction for this catalogue.

This exhibition has been shown in several cities in Europe before coming to London and we would like to thank Dr E. L. L. de Wilde, Director of the Stedelijk Museum in Amsterdam, for undertaking so much of the initial work of organization. The Marlborough–Gerson Gallery Inc., New York, and Marlborough Fine Art Ltd., London, have been most helpful in co-ordinating the arrangements and contributing towards the transport costs.

We wish to thank also Mr Michael Brawne, M.Arch. (M.I.T.), A.A.Dip., A.R.I.B.A. for planning the arrangement of the screens and the placing of the sculpture.

We are once again grateful to the Director and Trustees of the Tate Gallery in whose galleries the exhibition is held.

Gabriel White
Director of Art
Arts Council

Introduction

When war was declared on the first of August 1914, Naum Gabo, then a student at the University of Munich, decided to seek refuge in Scandinavia, and made his way, in the company of his brother Alexei, first to Copenhagen and then to Oslo. Gabo had left Russia in 1910 and gone to Munich to study medicine. There he had come under the influence of the great art historian Heinrich Wölfflin, and had gradually abandoned medicine for philosophy, applied science, and the fine arts. By the time he reached Norway Gabo was fully determined to become a sculptor, and there, among the Norwegian fjords, 'the real Gabo was born'. These are the words of his brother, who continues:

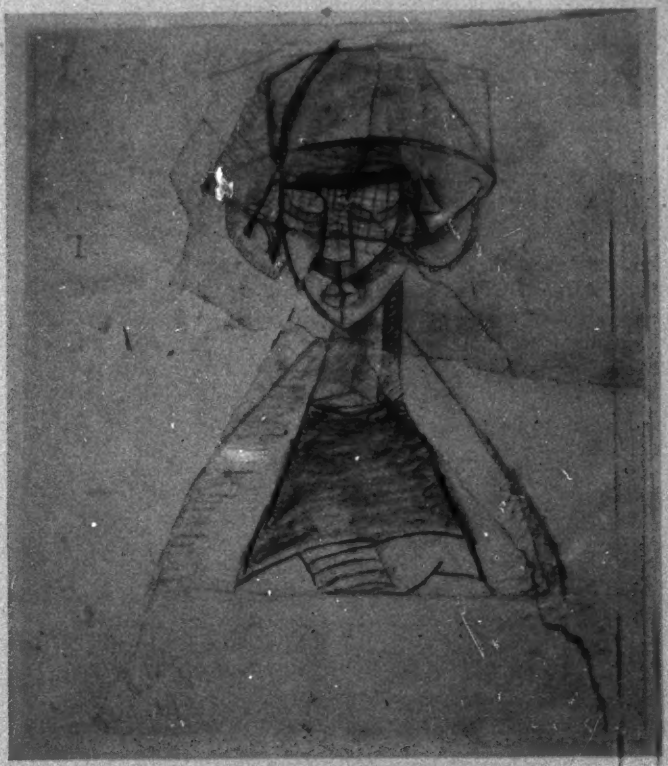
'During the years that we lived together in Norway, Gabo loved to think aloud, and I was his constant listener. We used to go very often for walks along the shores of the fjords and in the mountains, both by day and during the white nights. At this time he would return again and again to questions of space and time and to a search for means of expressing them. Subsequently Gabo wrote in his realistic manifesto: "look at our real space. What is it, if not continuous depth?"

'These ideas, I believe, were evoked in him by the depth that he saw around him in the Norwegian fjords. He endeavoured to represent this depth in the things around us and frequently had recourse to effects obtained by applying the methods of reverse perspective, such as the ancient Byzantines used to render depth and movement. He spoke to me much about the meaning of line in sculpture, and that its function was not to delimit the boundaries of things but to show the trends of hidden rhythms and forces in them. Space and time, the infinity of the universe, the entire starry cosmos that surrounds us – these were the things that constantly excited him.'[1]

It was then, in the winter of 1915–16 and far away from the studios of Moscow, Munich and Paris, that Gabo began to make his first constructions, small figures and heads assembled from pieces of thin coloured cardboard pasted together to form intersecting planes. These constructions from the beginning were so precisely 'engineered' that the artist could afterwards reproduce them in more durable materials (*Plate 1*).

I do not wish to imply that these constructions sprang like Minerva from Gabo's brain free from preconceptions of any kind. The concept of an abstract art was being formulated in Munich at the very time that Gabo was there as a student. In 1908 the Piper Verlag had published Wilhelm Worringer's *Abstraction and Empathy* and two years later the same publisher was responsible for Kandinsky's *Concerning the Spiritual in Art*. These were seminal works in which the idea of a geometrical 'abstractive' art was first promulgated.

[1] Alexei Pevsner: *Naum Gabo and Antoine Pevsner*. Amsterdam, Augustin & Schoonman, 1964, pp.13-14.



Drawing for a constructed head 1916 (67)

Gabo did not read Kandinsky's book until about 1913 and Worringer's book much later, but the idea of abstraction was 'in the air'. Independently in Paris Cubism was developing towards abstraction, and when Gabo visited Paris in 1912 and 1913 he saw the works of Picasso, Braque, Gris, Laurens, Lipchitz, Duchamp-Villon and Archipenko. His brother Antoine was already in Paris at this time, but working more in the spirit of Vrubel, a Russian painter who manifested a tendency towards abstraction long before the Cubists (Gabo has paid tribute to him in his Mellon Lectures *On Divers Arts*). But Gabo was not satisfied with any of these experiments in abstraction, which in his opinion always stopped short of a proper understanding of form in space. 'The use of space in Cubism', he declared, was 'unsystematic, accidental, in a sense anarchistic.' What Gabo demanded was 'a new kind of classicism, free in conception but disciplined in application'. What emerged from his meditations among the fjords of Norway was precisely a new kind of classicism.

This was to be defined in a manifesto which Gabo wrote on his return to Russia. At the outbreak of the Revolution (February 1917) Gabo and his brothers – Antoine had joined them in Oslo in December 1915 – decided at once to return home and reached Russia at the end of April 1917. The revolutionary ferment affected the arts no less than any other aspect of life in Moscow. The old Imperial Academy had been replaced by an organization called *Vkhutemas* (the Higher Art and Technical Workshop). Gabo himself has described this new institution :

'What is important to know about the character of the institution is that it was almost autonomous ; it was both a school and a free academy where not only the current teaching of special professions was carried out . . . but general discussions were held and seminars conducted amongst the students on diverse problems where the public could participate, and artists not officially on the faculty could speak and give lessons . . . During the seminars as well as during the general meetings, many ideological questions between opposing artists in our abstract group were thrashed out. These gatherings had a much greater influence on the later developments of constructive art than all the teaching.'[3]

To such discussions Gabo contributed the ideas he had evolved in the solitude of the Norwegian fjords, and these ideas were given their final formulation three years later in a *Realistic Manifesto* published on the occasion of a joint exhibition which he held with Antoine Pevsner – Pevsner signed the *Manifesto* but it was written by Gabo. Its central tenets were formulated as 'five fundamental principles', thus :

'The realization of our perceptions of the world in the forms of space and time is the only aim of our pictorial and plastic art.

'In them we do not measure our works with the yardstick of beauty, we do not weigh them with pounds of tenderness and sentiments.

'The plumb-line in our hand, eyes as precise as a ruler, in a spirit as taut as a compass . . . we construct our work as the universe constructs its own, as the engineer constructs his bridges, as the mathematician his formula of the orbits.

'We know that everything has its own essential image ; chair, table, lamp, telephone, book, house, man . . . they are all entire worlds with their own rhythms, their own orbits.

'That is why we in creating things take away from them the labels of their owners . . . all accidental and local, leaving only the reality of the constant rhythm of the forces in them.

'1 Thence in painting we renounce colour as a pictorial element, colour is the idealized optical surface of objects ; an exterior and superficial impresson of them ; colour is accidental and it has nothing in common with the innermost essence of a thing.

'We affirm that the tone of a substance, i.e., its light-absorbing material body, is its only pictorial reality.

'2 We renounce in a line, its descriptive value ; in real life there are no descriptive lines, description is an accidental trace of a man on things, it is not bound up with the essential life and constant structure of the body. Descriptiveness is an element of graphic illustration and decoration.

'We affirm the line only as a direction of the static forces and their rhythm in objects.

'3 We renounce volume as a pictorial and plastic form of space ; one cannot measure space in volumes as one cannot measure liquid in yards ; look at our space . . . what is it if not continuous depth ?

'We affirm depth as the only pictorial and plastic form of space.

'4 We renounce in sculpture, the mass as a sculptural element.

'It is known to every engineer that the static forces of a solid body and its material strength do not depend on the quantity of the mass . . . example a rail, a T-beam etc.

'But you sculptors of all shades and directions, you still adhere to the age-old prejudice that you cannot free the volume of mass. Here (in this exhibition) we take four planes and we construct with them the same volume as of four tons of mass.

'Thus we bring back to sculpture the line as a direction and in it we affirm depth as the one form of space.

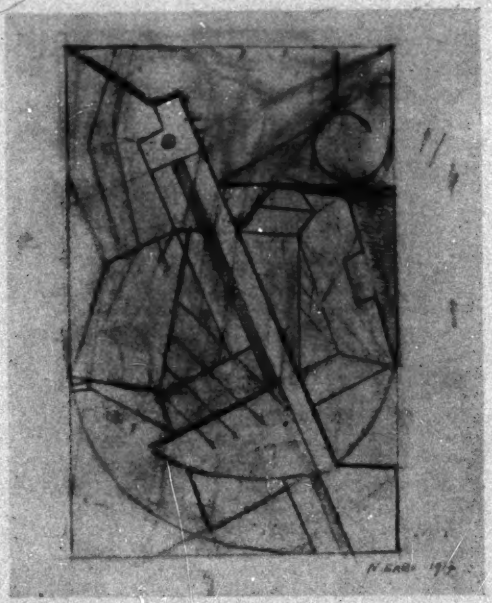
'5 We renounce the thousand-year-old delusion in art that held the static rhythms as the only elements of the plastic and pictorial arts.

'We affirm in these arts a new element of the kinetic rhythms as the basic forms of our perception of real time.'[3]

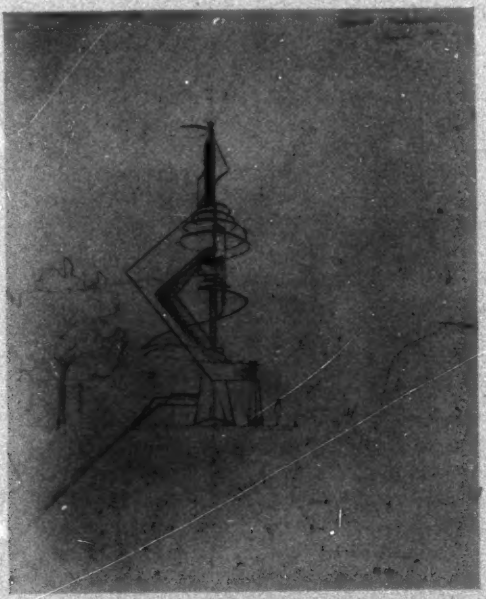
I have quoted these principles in full because they contain everything essential for an understanding of Constructivism in general and of the work of Gabo in particular. Written forty-six years ago, they explain the nature of the art that Gabo still practises, and has practised consistently for half a century. Gabo himself has several essays of a later date and a whole volume of a confessional character (*On Divers Arts*, 1962) but he has never modified these principles, formulated in 1920 'above the tempests of our weekdays. Across the ashes and cindered homes of the past. Before the gates of the vacant future.' Constructivism was born in the heart of the Russian Revolution, at the most decisive moment in the history of the modern world. It remains the most revolutionary doctrine of art ever pronounced in the modern world, as I shall now endeavour to explain.

[3] *Gabo: Constructions, Sculpture, Paintings, Drawings, Engravings*. London, Lund Humphries, 1967, p.152.

[3] *Ibid*, p.152



Sketch 1917 (70)



Sketch for a Square in Moscow 1919 (72)

I shall ignore on the present occasion the various modifications of or deviations from Constructivism represented by Tatlin, Rodchenko, Sternberg, Malevich and others (which have been fully described by Camilla Gray in *The Great Experiment: Russian Art, 1863–1922*) to concentrate on the pure doctrine as represented by Gabo himself.

It will be seen that the key word in Gabo's theory and practice of the art of sculpture is *space*. This word has become the key word of our civilization, and for this reason Gabo's perception of fifty years ago was prophetic. He was once asked in an interview by Abram Lassaw and Ilya Bolotowsky (1956) what in his opinion were the sources of this new concept of space in sculpture, and he replied :

'I would say that the real sources of the conception of space in sculpture are to be looked for in the whole state of our intellectual development and of the collective mind of our time. Space did not play a great role in the previous arts, not because the previous artists did not know anything about space, but because space represented to them only something which is there together with or attached to a mass volume. The volume and the material world around them was the main peg on which they hung their ideas and vision of the world. I would say, that the philosophic events and the events in science at the beginning of this century have definitely made a crucial impact on the mentality of my generation. Whether many of us knew exactly what was going on in science, or not, does not really matter. The fact was that it was in the air, and an artist, with his sensitiveness, acts like a sponge. He may not know about it but he sucks in ideas and they work on him. On the other hand, we sculptors, rejecting the old sculpture, found its means insufficient for us to express our new images. We had to find new means and introduce new principles and that is why the principles of space and structure became basic.
By doing my constructions I discovered the importance of space in them. We realized that every engineering object is, apart from its functional character, acting on us as an image.'[4]

This statement makes two assertions : that space as such has a special significance for 'the collective mind of our time', and that the sculptor of our time has to find new images to express this new, this special significance. We need not discuss the first of these assertions : it is sufficiently obvious to all of us that one of the distinguishing features of the modern epoch is that it has become far more conscious of space as such – that is to say, as the continuous extension in which we and all objects of perception exist. In a more general sense the western artist has become increasingly conscious of space ever since Giotto first began to give the illusion of three-dimensionality to the figures in his paintings. But space as a concept does not necessarily have reference to the existence of

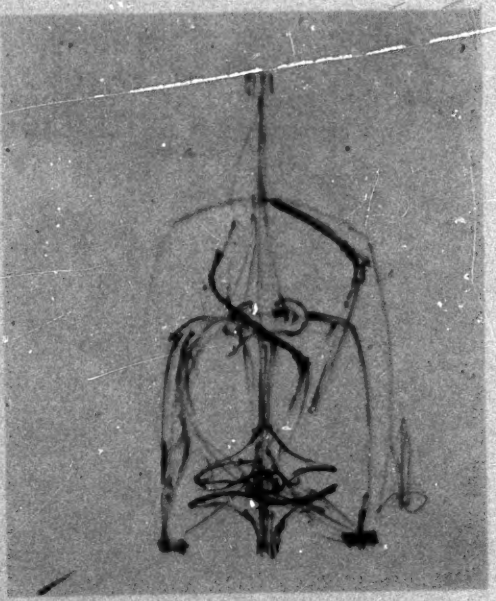
[4] *Ibid*, pp.159-60.

objects within it. Space is not necessarily 'a monolothic volume' ; it can also be conceived as the continuum itself, as 'one continuous depth'. A construction can be made which represents space, not as a monolithic volume, but as a kinetic image of continuous extension. Such at any rate, is the claim of Gabo, and all his work is to be experienced as such a kinetic image. The constructive idea, he has said, has revealed a universal law, namely, 'that the elements of a visual art such as lines, colours, shapes, possess their own forces of expression independent of any association with the external aspects of the world ; that their life and their action are self-conditioned psychological phenomena rooted in human nature ; that those elements (lines, colours, shapes) are not chosen by convention for any utilitarian or other reason as words and figures are, they are not merely abstract signs, but they are immediately and organically bound up with human emotions.'[5]

This is clear enough as the statement of a theory of art distinct from Cubism, abstraction or any other theory of modern art. Indeed, it represents a radically new approach to art itself, and that is why Gabo prefers to speak of Constructivism rather than of Sculpture. All previous conceptions of art have involved representations of the external aspect of the world, or have taken external aspects of the world as a point of departure (most non-figurative art has a 'kernel' of this kind). Gabo dared to conceive the independent existence of a work of art, deprived of all naturalistic content or inspiration, existing solely as an image of impersonal forces, but not thereby evading emotional responses when presented to a human being and perceived as an image. Indeed, one might attribute to such images the power of evoking in some degree the Pascalian *frisson: Le silence éternel de ces espaces infinis m'effraie.*

Gabo has said that the Constructive idea sees and values art only as a creative act. 'By a creative act it means every material or spiritual work which is destined to stimulate or perfect the substance of material or spiritual life'. This is essentially Plato's conception of the function of art : the work of art is an embodiment of the physical laws of the universe, which are harmonic in their nature, and in virtue of this representative function, the work of art is capable of modifying man's environment and of transmitting this harmony to his soul. But it only has this power by virtue of its universal, abstract perfection. When the work of art becomes 'a mirror of perfection', mankind is then given a model to which his spirit can conform. The ultimate aim is to create a complete civic environment which will then inevitably have this function ; in the words of the Realistic Manifesto : 'In the squares and on the streets we are placing our work convinced that art must not remain a sanctuary for the idle, a consolation for the weary, and a justification for the lazy. Art should attend us everywhere that life flows and acts . . . at the bench, at the table, at work, at rest, at play ; on working days and holidays . . . at home and on the road . . . in order that the flame to live should not extinguish in mankind.' Or in the words Plato used to express the

[5] 'The Constructive Idea in Art' (1937). *Ibid.* p.163.



Sketch for an arch monument 1952 (99)

same ideal : 'We must look for those craftsmen who by the happy gift of nature are capable of following the trail of true beauty and grace, that our young men, dwelling as it were in a salubrious region, may receive benefit from all things about them, whence the influence that emanates from works of beauty may waft itself to eye or ear like a breeze that brings from wholesome places health, and so from earliest childhood insensibly guide them to likeness, to friendship, to harmony with beautiful reason'.[6]

'Works that express harmony with beautiful reason' is as near as we can get to a definition of Gabo's constructions, and it is for that reason that I have called his work classical – it might be more exact to call it Platonic. He has not been alone in this conception of art – with modifications it was the conception held not only by his brother Antoine, but also by Malevich and Mondrian, and generally by the Dutch *De Stijl* group. But Gabo has realized the conception with greatest consistency and purity, and his work in its totality, as seen in a retrospective exhibition such as the present one, is not only an impressive witness to a life of high endeavour, but points even more impressively to the future. 'Today is the deed. We will account for it tomorrow.'

Herbert Read
5.1.1966

[6] *Republic*, III, 401 (trs. Paul Shorey, Loeb Library).

Biographical Notes and Principal Exhibitions

1890 Born Briansk, Russia. Named Naum Neemia Pevsner. Older brother of Alexei and younger brother of Antoine.

1910 Graduated from Gymnasium at Kursk. Enrolled in medical faculty at University of Munich.

1910–14 In Munich.

1911 Transferred to study of natural sciences.

1912 Studied engineering at polytechnium school, Munich. During these years attended Professor Wölfflin's lectures on the History of Art.
First visit to Paris.

1913 Walking tour through Italy from Munich to Florence and Venice.

1913–14 Visited brother Antoine who was painting in Paris.

1914 At outbreak of war went to Copenhagen, Stockholm and then Oslo with younger brother Alexei.

1915 Made first constructions using the name Gabo.
December: joined by elder brother Antoine.

1917 April: returned to Russia.

1919–20 Project for a radio station at Serpuchov.

1920 First public exhibition in the open-air on Tverskoi Boulevard, Moscow.
Wrote Realistic Manifesto, published in Moscow, with brother Antoine.
First constructions with motor.

1922–32 Lived in Berlin.

1922 Left Moscow for Berlin. Exhibited in the *Erste Russische Kunstaustellung*, organized by the Soviet Government at the Galerie van Diemen, Berlin.
Project for a monument for an observatory.

1924 Exhibited at the Galerie Percier, Paris: *Constructivistes Russes: Gabo et Pevsner.*

1924–25 Project for a monument for an airport.

1925 Project for a monument for the Institute of Physics and Mathematics.

1926 Exhibited for the first time in America at the Little Review Gallery, New York, with Van Doesburg and Pevsner.

Designed set, properties and costumes for Diaghilev's ballet *La Chatte* first performed in Monte Carlo in 1927. Pevsner designed the statue of the goddess.

1929 Project for a *Fête Lumière* for the Brandenburg Gate, Berlin.

1930 First one-man exhibition of constructions at the Kestner-Gesellschaft, Hanover.

1931 Project for the Palace of the Soviets.

1932 Left Germany for Paris.
Project for a monument for an airport.

1932–35 Member of the group *Abstraction-Création.*

1935 First visit to England.

1936 Exhibited with fifteen artists in *Abstract and Concrete* at the Lefevre Gallery, London.

Exhibited with Pevsner at the Chicago Arts Club. Seven works included in *Cubism and Abstract Art* at the Museum of Modern Art, New York.

Married Miriam Israels in London.

1937 Edited with J. L. Martin and Ben Nicholson *Circle: International Survey of Constructive Art.*

Two works included in large constructivist exhibition at the Kunsthalle Basel, and two in constructivist exhibition at the London Gallery, London.

1938 One-man exhibition at the London Gallery, London.
Visited the United States; exhibited at the Wadsworth Atheneum, Hartford, at the Julien Levy Gallery, New York and at Vassar College, Poughkeepsie.
Spheric theme purchased as a fountain project for the General Electric Company pavilion at the New York World's Fair, but never installed.

1939 At outbreak of war moved to Carbis Bay, Cornwall.
Exhibited one work in the San Francisco Golden Gate exhibition in section 'Sculpture in Setting'.

1941 Birth of daughter Nina-Serafina.

1942 Exhibited in *New Movements in Art. Contemporary Work in England*, London Museum, London.

1944 Member of Design Research Unit, London.

Produced an advanced design for a car for Jowett which did not go into production.

1946 Left England for the United States.

1948 Exhibited with Pevsner at the Museum of Modern Art, New York.

1950 Commissioned to make construction for the Sadie A. May wing of the Baltimore Museum of Art.

1951 Baltimore construction completed and installed.
Exhibition at the Massachusetts Institute of Technology.

1952 Became citizen of United States of America.
Exhibition, with Josef Albers, at the Chicago Arts Club.

1953 One-man exhibition at the Pierre Matisse Gallery, New York. Exhibition, with Alexander Calder, at the Wadsworth Atheneum, Hartford.
Awarded second prize in the *Unknown Political Prisoner* international sculpture competition.

1953–54	Professor at Harvard University Graduate School of Architecture.
1954	Awarded Guggenheim Fellowship. Awarded the Mr and Mrs Frank G. Logan Medal of the Art Institute of Chicago.
1955	Commissioned to make sculpture for the Bijenkorf building in Rotterdam.
1956	Commissioned by Wallace K. Harrison to make bas-relief for the U.S. Rubber Company, Rockefeller Centre, New York. Completed in November.
1957	Bijenkorf construction completed and installed.
1958	One-man exhibition at the Boymans Museum, Rotterdam and the Stedelijk Museum, Amsterdam.
1960	Prize from Brandeis University.
1962	June: visited brothers Mark, Jeremy and Alexei in Moscow and Leningrad.
1965	Elected member of the Institute of the American Academy of Art and Letters.
1965–66	Retrospective exhibition at the Stedelijk Museum, Amsterdam; the Kunsthalle, Mannheim; the Wilhelm-Lehmbruck-Museum, Duisburg; the Kunsthaus, Zürich; the Moderna Museet, Stockholm; the Tate Gallery, London. Lives in Middlebury, Connecticut.

Negative Volume 1940 length 9 in (13)

Sculpture

Measurements are in inches, followed by centimetres, height first

1 *Plate 1*
Head no. 2 1916
Bronze *h* 17¾/45
Collection Miriam Gabo

The original version was constructed of sheet iron

2
Head no. 2 1916/65
Core 10 steel *h* 37¾/96
Collection the artist

Larger version of cat. no. 1

3 *Plate 2*
Head in corner niche 1916–17/1954–64
Bronze 24½×19½/62·2×49·5
Collection the artist

The original model in celluloid and metal is in the Museum of Modern Art, New York

4 *Plate 3a*
Kinetic sculpture (standing wave) 1920
Metal rod with electric motor *h* 23/58·5
Collection the artist

5 *Plate 3b*
Square relief 1921
Perspex 17¼×17¼/44×44
Collection the artist

A second version exists in the collection of G. L. K. Morris

6
Column 1923
Glass, plastic and wood on an aluminium base *h* 12/30·5
Collection Professor Sir Leslie Martin, C.B.E.

The original version of this construction, 41 in high, is in the Solomon R. Guggenheim Museum, New York. There are two further versions the same size as the work exhibited.

'From the very beginning of the Constructivist Movement it was clear to me that a constructed sculpture, by its very method and technique, brings sculpture very near to architecture. The *Project for a Radio Station* which I did in the winter of 1919–20, and Tatlin's model for the 3rd International done a year earlier, indicate the trend of our thoughts at that time. My works of this time, up to 1924, are all in the search for an image which would fuse the sculptural element with the architectural element into one unit. I consider this *Column* the culmination of that search.' Gabo, quoted in *Gabo, Constructions, Sculpture, Paintings, Drawings, Engravings*, London, 1957, accompanying pl.26.

7 *Plate 4*
Construction in space, balanced on two points 1925
Enamelled brass, glass and plastic 26½×40/67·5×101·5
Collection Yale University Art Gallery, New Haven, Conn.

8 *Plate 5*
Torsion 1929
Perspex *h* 13¾/35
Collection Miriam Gabo

9 *Plate 6a*
Stone with a collar 1933
Portland stone, slate slab *h* 14¼/36
Base length 29½
Collection the artist

10
Construction on a line 1935–37
Rhodoid (plastic) 13½×17/34×43
Collection Mrs Lois Ventris

Dedicated to the memory of Michael Ventris. Other versions in the collections of the Wadsworth Atheneum and J. Johnson Sweeney

11 *Plate 6b*
Kinetic stone 1936
Portland stone 9⅜×14⅛×9/24×37×23
Collection Miriam Gabo

12
Construction on a plane 1937
Perspex on wood base 18¾×18⅞×8½/48×48×21·5
Collection Miriam Gabo

A version is in the collection of Sir Leslie Martin. Another version, with a white centre, is in the Solomon R. Guggenheim Museum, New York

13 *Reproduced page 8*
Negative volume 1940
Oil on gourd length 9/23, *w* 5¾/14·5, *d* 2¾/6
Collection the artist

14
Spiral theme 1941
Rhodoid (plastic) *h* 5⅜/13·5
Collection the Tate Gallery, London

A version 7½ in high is in the Museum of Modern Art, New York, but the intended large version has not been made

15
Linear construction in space no. 1 1942/43
Perspex and nylon thread *h* 24/61
Collection the artist

Another version the same size is in the Solomon R. Guggenheim Museum, New York. There are also several smaller versions

16 *Reproduced on cover*
Linear construction in space no. 1 (variation) 1943
Perspex and nylon thread 18×18×7/45·7×45·7×17·8 Collection Marlborough-Gerson Gallery, New York

There are a number of other versions including one 24½ in high in the Phillips Collection, Washington, and one 13¾ in high in the Tate Gallery, in which the stepped-back treatment of the two sides is less pronounced Further versions in the collections of Joseph Pulitzer Jr. and Benny Goodman

17 *Plate 7*
Linear no. 2 (large version) 1949/53
Perspex and nylon thread *h* 36/92
Collection Miriam Gabo

18
Red stone 1963/64
African red stone *h* 9½/24 diam. 17/43
Collection Miriam Gabo

19
Maquette for sculpture designed for the 51st Street entrance of the Esso Building, Rockefeller Centre, New York 1949
Plastic and metal 8¾ × 7¼/22·3 × 18·5
Collection the Museum of Modern Art, New York, Gift of the artist

This project was not executed

20
Three maquettes for sculpture designed for the 52nd Street entrance of the Esso Building, Rockefeller Centre, New York 1949
a Plastic and metal 6½ × 9/16·5 × 22·8
b Plastic and metal *h* 3/7·6
c Plastic and metal *h* 3/7·6
Collection the Museum of Modern Art, New York

This project was not executed

21
Repose 1953
Carrara marble on aluminium base *h* 11¾/29·8 diam. 23/58·5
Collection Miriam Gabo

22 *Plate 8*
Linear no. 3 with red 1953
Perspex, stainless steel springs, aluminium base *h* 59¾/152
Collection Miriam Gabo

A half-size version is in the collection of Nelson A. Rockefeller

23
Construction in space 1953
Phosphor-bronze net on aluminium base *h* 29¾/75
Collection Miriam Gabo

24 *Plate 9*
Arch no. 2 1958/63
Phosphor-bronze and bronze springs *h* 33¼/84·5
Collection Miriam Gabo

25 *Plate 10*
Bronze spheric theme *c.*1960
Phosphor-bronze *h* 38¼/97·2
Collection Miriam Gabo

Gabo has commented on the development of the 'spheric theme' as follows:
'The Spheric Theme is the result of many years research for a constructive method of transferring my perception of space in terms of visual experience of it. The angular structure of the stereometric cube which I applied in my previous constructions since 1915, I found in elementary stereometry. It very soon proved insufficient to many an image which was growing in me where the vision of space as a sculptural element had to play a greater role than in my previous images. 'I felt that the visual character of space is not angular: that to transfer the perception of space into sculptural terms, it has to be spheric. I was looking for some kind of an indication in the scientific world, where a method of spheric structure could perhaps be found.
'I found no answer in graphic terms in science which would satisfy my vision of space. I consider that in this work of mine there is a satisfactory solution to that problem. Instead of indicating space by an angular intersection of planes, I enclose the space in one curved continuous surface. I eliminate angularity in space construction and give space the curved character which it has to my perception. I have used this system since 1936. I have made several variations on this theme in order to show its structural possibilities. There is an immense variety of images which a constructive sculptor may conceive which can be executed with the help of this system. There are some who consider my 'Spheric Theme' as an image of infinity. To my mind the image of infinity could not be an image which turns back on itself. I feel in this Spheric Theme continuity rather than infinity.' Gabo quoted in *Gabo, Constructions, Sculpture, Paintings, Drawings, Engravings*, London 1957, accompanying pl.65.

Torsion (project for a fountain) 1960/64
Bronze diam. 33/84
Collection the artist

This construction is enlarged from *Torsion* 1929, cat. no. 8

27
'Quartz' stone 1963/64
Marble 31½ × 23¾ × 20¾/80 × 60 × 53
Collection Miriam Gabo

This is an enlarged version of a carving in quartz stone, made in 1961/62

28 *Plate 11*
Linear no. 4 1962
Bronze and stainless steel and bronze springs *h* 50/127
Collection Miriam Gabo

This is a variation from a construction of *c.*1959/62

Other versions are in the collections of Joseph Hirschhorn, Dr Michel Meyer and the Whitney Museum, New York

29 *Plate 12*
Torsion (variation no. 3) 1963
Bronze and bronze springs
27 × 28 × 28/68·6 × 71·1 × 71·1
Collection the artist

30
White stone 1963/64
Marble 28¾ × 19¾ × 25¾/73 × 50 × 65
Collection Miriam Gabo

An enlarged version of a carving of 1960

31 *Plate 14*
Vertical construction 1964/65
Phosphor-bronze, stainless steel springs, brass base *h* 39½/100·5
Collection the artist

32
Construction in space. 'Suspended' 1965
Phosphor-bronze, aluminium, perspex and nylon thread 22½ × 23 × 25¼/57 × 64 × 58·5
Collection the artist

33
Vertical construction no.2 1965/66
Bronze with stainless steel springs 81 × 16/206 × 40·5
Collection Miriam Gabo

Paintings
All the paintings with the exception of numbers 46, 50 and 51 are in the collection of Miriam Gabo

34
Hamlet 1908
Watercolour 5¼ × 4/14 × 10

35
Marcia (the artist's sister) 1912
Watercolour 7¼ × 5⅛/18·4 × 15
(An inscription on back by Alexei Pevsner gives date 1912)

36
Portrait of a girl in a low-necked dress 1912
Watercolour 6½ × 7¼/16·5 × 18

37
Construction for a pool 1931
Pastel 8½ × 7/21·5 × 17·8
Signed and dated lower right

38
Imaginary construction (Logan Rock) 1933
Oil on panel 10⅝ × 8⅝/27 × 21·6
Signed lower centre below and dated lower left

39
Green bowl 1939
Pastel on paper 10 × 12¾/25·4 × 32·4

40
Yellow painting (Strontium) 1939/45
Oil on wood panel 9 × 11¾/23 × 30

41
Dissonance *c.*1940
Oil on canvas mounted on board
20⅛ × 20⅛/51 × 51

42
Hungarian rhapsody (The gypsy) 1941
Oil on board 10½ × 7½/26·5 × 19
Signed and dated lower right

43
Composition in brown 1941
Oil on paper 7½ × 10/19 × 25·5
Signed lower left

44
Pilot's view 1942
Watercolour 6½ × 8½/16·5 × 21·5
Signed and dated lower right

45
Nocturne (small version) 1943
Oil on paper mounted on board
9⅝ × 7⅛/24·8 × 20
Signed and dated lower left

46
Construction in depths 1944
Oil on laminated panel 15 × 17¾/38·1 × 45·4
Signed lower right
Collection Solomon R. Guggenheim Museum, New York

47
Green painting (Ireland) *c.*1944
Oil on canvas mounted on board
10½ × 12½/26·3 × 31·8

48
Turquoise kinetic painting 1945
Oil on canvas mounted on circular board, with motor.
Canvas 7⅝ × 9/30 × 23, diam. of board 17⅛/43·5

49
Yellow image 1945
Watercolour and mixed media
7½ × 10¾/19·1 × 26·7
Initialled lower right

50
Blue kinetic painting 1953
Oil on wood panel, with motor, diam. 36/91·4
Collection Wadsworth Atheneum, Hartford, Connecticut

51
Imaginary still life (rose painting)
Oil on panel 10 × 14¼/25·4 × 35·9
Collection Elizabeth Holahan, Rochester

52
Two images superimposed 1954/55
Oil on canvas on wood panel
31 × 23⅝/78·8 × 59·7

53
Two images interlocked 1954/55
Oil on panel 15⅝ × 18⅝/39·5 × 46·5

54
Embers *c.*1960
Oil on board 33¼ × 23¾/84·5 × 60·5
Signed lower right

55
Concentric composition *c.*1960
Oil on canvas on wood panel
27 × 25/68·5 × 63·5

56
Hovering 1965
Oil on board 30 × 25/76·2 × 63·5

Ten oil sketches 1960–65

57
Oil and gouache on paper
7⅝×6¾/19·3×17

58
Oil on paper
11×9⅝/28×24·5

59
Oil on paper
8⅛×6¾/20·6×17·7

60
Oil on paper
8½×11⅜/21·6×29

61
Oil and watercolour on paper
7½×8½/19×21·5

62
Oil and gouache on paper
9⅜×7⅜/23·7×18·8

63
Oil on paper
11⅜×8½/29×21·5

64
Oil on paper
9½×7⅜/24×18·8

65
Oil on paper
11⅜×8½/29×21·5

66
Oil on paper
7 1/16×8 7/16/19·2×21·7

Drawings
All the drawings are lent by Nina Gabo

67 *Reproduced page 3*
Drawing for a constructed head 1916
Pencil 7⅛×6⅝/19×17
Signed and dated lower left

68
Sketch 1917
Pencil 9⅞×6⅝/25×17
Signed top left, dated top right

69
Sketch for construction in a niche 1917
Pencil 11×14⅛/28×28·5
Initialled and dated lower right

70 *Reproduced page 5*
Sketch 1917
Pencil 7×5⅝/18×14·2
Signed and dated lower right

71
Sketch for construction in a niche 1918
Pencil 9⅝×7⅝/24·5×19·5
Signed and dated twice, middle and lower right

72 *Reproduced page 5*
Sketch for a Square in Moscow 1919
Pencil 16⅛×14/41×35·5
Inscribed, dated and initialled top right

73
First sketch for the monument of Physics and Mathematics 1919
Pencil 11×8/28×20·4
Signed and dated lower right

74
Sketch for a kinetic construction c.1921
Pencil 11⅛×9½/29×24
Signed lower right

75
Sketch *c.*1923
Pencil 7×6/17·8×15·2
Signed lower right

76
Sketch for a kinetic construction 1922
Indian ink 7⅝×6⅝/19·5×17
Signed and dated lower right

77
Interlocking forms 1926
Pencil 10⅜×8/26·5×20·4
Signed, inscribed and dated lower right

78
Monte Carlo 1926
Pencil 10⅝×8⅝/27×22
Initialled, dated and inscribed lower right

79
Costume sketch for 'La Chatte' 1926
Crayon 11×9/28×22·9
Signed and inscribed lower right

80
Costume sketch for 'La Chatte' 1926
Crayon 11×9/28×23
Signed and dated lower right

81
Bust *c.*1926
Pencil and gouache 4×3/10×7·5

82
Sketch for a carving in stone 1930
Gouache 15⅜×19⅝/39·5×50
Initialled twice and dated lower right

83
Drawing 1931
Pencil 4¾×6/12×15·2
Signed and dated lower left

84
The Urn *c.*1933
Pencil 10⅝ × 8/27 × 19·4
Initialled and inscribed lower right

85
Sketch for 'The Urn' *c.*1933
Pencil 10⅛ × 7⅝/25·7 × 19·5
Signed lower right

86
Sketch for 'The Urn' *c.*1933
Pencil 10 × 8/25·5 × 20·3

87
Sketch for a stone carving 1933
Pencil 5¼ × 8½/13 × 22
Signed and dated lower right

88
Sketch for spheric theme 1935/37
Blue crayon 7⅞ × 12⅝/19·7 × 32·5
Signed lower right

89
Sketch for a carving *c.*1937
Crayon 6⅝ × 6/17 × 15·2
Signed lower right

90
Sketch for 'Hovering' *c.*1940
Pencil 11⅛ × 11¼/29 × 28·5
Signed lower right

91
Sketch 1941
Pencil and gouache 10⅛ × 13½/26·5 × 34·2
Signed twice and dated lower right

92
Sketch for a fountain *c.*1940
Pencil 9⅝ × 4/23·2 × 10
Initialled lower right

93
Sketch 1946
Pencil and watercolour 10⅝ × 11/27 × 28
Signed and dated lower right

94
Sketch for wood engraving 1949
Pencil and gouache 7½ × 4½/19 × 11·5
Signed and dated lower right

95
Pencil sketch 1949
Pencil 12⅛ × 8/31 × 20·3
Signed lower right

96
Pencil sketch 1950
Pencil 13⅛ × 10⅝/34·2 × 27
Signed and dated lower right

97
Untitled
Felt pen 20 × 16/50·9 × 40·5
Inscribed, signed and dated 1950 [later]
lower left

98
Sketch for a monument (Phosphor-Bronze '53) 1952
Pencil 16⅛ × 15⅞/41 × 40
Initialled and dated lower right

99 *Reproduced page 6*
Sketch for an arch monument 1952
Pencil and watercolour
19⅛ × 15½/48·5 × 39·5
Signed and dated lower right

100
Sketch for a construction 1954
Pencil 9¼ × 7⅛/23·5 × 18·8
Signed and dated lower right
This drawing is related to the monument for the Bijenkorf building in Rotterdam, completed in 1957

101
Untitled *c.*1953/60
Pencil 4½ × 4⅜/11·5 × 11
Signed lower right

102
Untitled *c.*1953/60
Oil on board 7⅜ × 5¼/18·8 × 14·5
Signed lower right

103
Untitled *c.*1953/60
Pencil 9¼ × 7⅛/23·5 × 19·5
Initialled lower right

104
Drawing *c.*1953/60
Felt pen 19¼ × 16⅛/49·5 × 41
Signed lower right

105
Drawing *c.*1953/60
Felt pen 18½ × 15¼/47 × 38·5
Initialled lower right

106
Untitled 1961
Gouache and oil 14⅛ × 10⅝/36·2 × 27·2
Signed and dated lower right

107
Sketch *c.*1961
Felt pen 16½ × 20¼/42 × 51·5
Signed lower left

108
Sketch for a twisted stone *c.*1960/62
Indian ink 7 × 7/17·4 × 17·4

Bibliographical note

The principal monograph is: *Gabo, Constructions, Sculpture, Paintings, Drawings, Engravings*, with introductory essays by Herbert Read and Leslie Martin, London (Lund Humphries) 1957. This book reprints a number of Gabo's writings and includes a full bibliography by Bernard Karpel.

List of lenders

Gabo, Miriam	1, 8, 11, 12, 17, 18, 21–25, 27, 28, 30, 33, 34–45, 47–49, 52–56, 57–67
Gabo, Naum	2–5, 9, 13, 15, 26, 29, 31, 32
Gabo, Nina	67–108
Hartford, Conn., Wadsworth Atheneum	50
Holahan, Elizabeth	51
London, Trustees of the Tate Gallery	14
Martin, Professor Sir Leslie, CBE	6
New Haven, Yale University Art Gallery	7
New York, Marlborough-Gerson Gallery	16
New York, Museum of Modern Art	19, 20
New York, Solomon R. Guggenheim Museum	46
Ventris, Mrs Lois	10

Plate 1 Head no.2 1916 h 17½ in (1)

Plate 2 Head in corner niche 1916/17 24⅝ × 19⅝ in (3)

Plate 3a **Kinetic sculpture 1920 h 23 in (4)**

Plate 3b **Square relief 1921 17¼ × 17¼ in (5)**

Plate 4 Construction in space balanced on two points 1925 h 29½ in (?)

Plate 5 Torsion 1929 h 13¾ in (8)

Plate 6a **Stone with a collar 1933 *h* 14¼ in (9)**

Plate 6b **Kinetic stone 1938 9⅛ × 14⅛ × 9**

Plate 7 **Linear construction no.2 1949/53 h 36 in (17)**

Plate 8 Linear no.3 with red 1953 *h* 58¾ in (22)

Plate 9 **Arch no.2 1958/63 *h* 33¼ in (24)**

Plate 10 **Bronze spheric theme** *c.*1960 *h* 38¼ in (25)

Plate 11 Linear no.4 1962 *h* 50 in (28)

Plate 12 Torsion (variation no.3) 1963 *h* 27 in (29)

Plate 13 Vertical construction 1964/65 h 39½ in (31)

Plate 14 Monument for Bijenkorf building, Rotterdam 1954/57 *h* 80 ft

Designed by Gordon House
Printed in England by Lund Humphries